

Notice of Allowability

Application No.

10/000,287

Examiner

Kelly L. Jerabek

Applicant(s)

LEE ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 3/24/2006.
2. ☒ The allowed claim(s) is/are 11-20.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

This case has been transferred to Examiner Kelly Jerabek. Please direct all future correspondence to Examiner Jerabek whose contact information is provided below.

Response to Arguments

Applicant's arguments on pages 9-10 of the amendment, filed 3/24/2006, with respect to claims 11-20 have been fully considered and are persuasive. The rejection of claims 11-20 has been withdrawn.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Please cancel withdrawn claims 1-10.

Allowable Subject Matter

Claims 11-20 are allowed.

The following is an examiner's statement of reasons for allowance:

Re claim 11, the prior art fails to teach or suggest, "A high-speed image pickup method of a complementary metal-oxide-silicon (CMOS) image sensor including m horizontal lines with a plurality of pixels and an analog-to-digital converter, where m is an integer greater than zero, the method comprising the steps of: (a) applying a vertical selection signal in response to a vertical shift clock signal, thereby enabling a first horizontal line among the m horizontal lines; (b) applying a vertical transmission signal in a first instance, thereby outputting a charge signal of the first horizontal line to the analog-to-digital converter; **(c) applying a vertical erasure signal in a first instance, thereby erasing the charge signal of the first horizontal line; (d) shifting the vertical selection signal in response to the vertical shift clock signal, thereby enabling a second horizontal line; (e) applying the vertical erasure signal in a second instance, thereby erasing a charge signal of the second horizontal line before the vertical transmission signal is applied in a second instance to output a charge signal of a horizontal line following the first horizontal line; (f) shifting the vertical selection signal in response to the vertical shift clock signal, thereby enabling**

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the horizontal line following the first horizontal line; and (g) applying the vertical transmission signal in a second instance, thereby outputting the charge signal of the horizontal line following the first horizontal line to the analog-to-digital converter”.

Re claim 16, the prior art fails to teach or suggest, “A high-speed image pickup controller of a complementary metal-oxide-silicon (CMOS) image sensor including m horizontal lines with a plurality of pixels and an analog-to-digital converter, where m is an integer greater than zero, the controller comprising: a vertical shifter for receiving a vertical selection signal in response to a vertical shift clock signal and generating an internal vertical selection signal to enable a first horizontal line or a second horizontal line among the m horizontal lines; a vertical erasure signal generator for receiving a system clock signal, **generating a vertical erasure signal for erasing a charge signal of a horizontal line, and applying the vertical erasure signal to the first horizontal line in a first instance and applying the vertical erasure signal to second horizontal line in a second instance; and a vertical transmission signal generator for receiving the system clock signal, generating a vertical signal transmission signal for outputting a charge signal of a horizontal line, and applying the vertical transmission signal to the first horizontal line in a first instance and a horizontal line following the first horizontal line in a second instance; wherein the vertical erasure signal generator applies the vertical erasure signal in the second instance before the vertical transmission signal generator applies the vertical**

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transmission signal in the second instance to output the horizontal line following the first horizontal line”.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly L. Jerabek whose telephone number is (571) 272-7312. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for submitting all Official communications is (703) 872-9306. The fax phone number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the Examiner at (571) 273-7312.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KLJ

Handwritten signature of Kelly L. Jones in cursive script.Handwritten signature of David Ometz in cursive script.

DAVID OMETZ
SUPERVISORY PATENT EXAMINER